

ABSTRACT

The arc tube 3 comprises: a translucent ceramic envelope 19 including a central tube 16 having an inner diameter of 5.5 mm or more, thin tubes 18 formed, on contact with joining portions 17, onto both ends of the central tube 16, and at least one rare earth halide enclosed therein; and electrode inductors 24 and 25 inserted and sealed in the thin tubes 18. In a cross section of the arc tube 3 along a plane including the axis X in the longitudinal direction, an angle α between the straight-line section of the inner surface of the central tube 16 and that of each joining portion 17 is set to 85° – 115° . Clearance gaps 26 are formed between the thin tubes 18 and electrode inductors 24 and 25. The curvature radius of the inner surface of each boundary region 20 between the central tube 16 and joining portions 17 is set to 0.5 mm–2.5 mm.